Space Weather Forecast

Issued on Thursday, 05 May 2022 at 01:12 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: No significant geomagnetic activity. Chance of further R1-R2 blackouts, with a slight chance of R3 blackouts.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was High, due to a Moderate flare at 04/0900UTC, originating from a sunspot region, which continues to grow in size and complexity, near south-centre disc. Another region is emerging around the southeast limb, which produced a Strong flare on 3rd May. This region will continue to be monitored as it continues to rotate around onto the visible disc. The two remaining regions are simple regions in the southwest quadrant which appear stable.

No Earth-directed CMEs (coronal mass ejections) have been observed on available imagery.

Solar Wind / Geomagnetic Activity: The solar wind has returned to ambient levels. The total strength of the magnetic field carried by the solar wind has been weak, with the important north-south component also varying weakly. Resultant geomagnetic activity was Quiet.

Energetic Particles / Solar Radiation: No solar radiation storms were observed during the last 24 hours.

Four-Day Space Weather Forecast Summary

Solar Activity: There is a chance of further Moderate flares, and a slight chance of Strong flares during the period, from the two active regions mentioned above.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently forecast. Solar wind conditions are expected to be ambient over the next four days, with no enhancements forecast. Geomagnetic activity is expected to be mainly Quiet, with isolated Unsettled intervals.

Energetic Particles / Solar Radiation: No solar radiation storms are expected through the forecast period, although probabilities have been raised to a very slight chance above background levels.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	Yes	50	50	50	50
Very Active	R3 to R5 X	No	20	20	20	20

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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